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Agriculture.

Advertising has become farmer's new hired man. By Don Francisco. Printers' Ink. v. 164, no. 5. August 3, 1933. p. 3-6, 76-77. Limited production does not mean successful marketing operation. Control plan which Department of Agriculture is now putting into effect can go less than half way toward solving farmer's difficulties. There remains process of increasing per capita consumption. Advocates combining control of supply with drive to stimulate demand.

Back-to-the-land trend is slowing down. Ice Cream Trade Journal. v. 29, no. 5. May, 1933. p. 22. Increasingly difficult to find shelter in rural areas, and especially in rural places near industrial centers. Setting up of suburban garden plots, greater availability of relief funds, have also slowed farmward movement.

Come and get it. By E. V. Wilcox. Country Gentleman. v. 103, no. 4. April, 1933. p. 12-13. Discussion of government loan to agriculture.

Farm credit in the recovery program. By Henry Morganthau, jr. 1933. 8p. Farm Credit Administration.

Improved credit facilities for farmers. Dakota Farmer. v. 53, no. 12. September 2, 1933. p. 232. New and amended laws round out Federal credit system.

Less production - more profit - greater leisure. By Henry A. Wallace. Montana Farmer. v. 21, no. 2. September 15, 1933. p. 1. Agricultural adjustment act is practical business measure. Act, if it works, will bring to farming people not only balanced abundance, but more balanced leisure, and greater opportunity for individual growth.

National policies affecting rural life. Synopsis of address made by L. J. Taber. Extension Division News. Virginia Polytechnic Institute. v. 16, no. 1. November, 1933. p. 1-2.

Our lands in order. By Rexford G. Tugwell. Extension Service Review. v. 4, no. 5. September, 1933. p. 65-66. Adjusting harvests to demand; Allotment of wheat acreage; Right use of land; Decentralization. Farm does not offer solution of our unemployment problem. To consider using open country as scrap heap for general industry is short sighted and wrong. No sustenance farm or workers' garden home plan which is conceived on squatter or refugee basis, or which contemplates support by

means of commercial farming is sound. One thing which will make possible general or permanent deliverance of city workers into green fields and quiet homes is to group or scatter smaller factories and office buildings throughout countryside. Then these people can live on soil in greater peace and security than they now enjoy, and earn greater part of their living at their accustomed callings.

Air Conditioning.

Air conditioning. By James A. Moyer and Raymond U. Fittz. 1st edition. N.Y. McGraw - Hill Book Company, Inc., 1933. 390p.

Dust filters and air cleaning apparatus. By Samuel R. Lewis. Aerologist. v. 9, no. 10. October, 1933. p. 16-22.

Ice and air conditioning costs. By Clifford F. Holske. Cold Storage. v. 36, no. 425. August 17, 1933. p. 186. Importance of low load factors.

Reversed cooling for heat an economic combination. By C. D. Graham. Electrical World. v. 102, no. 17. October 21, 1933. p. 533-537. Results compared at different temperature gradients; Auxiliary power requirements for reversed refrigeration; Relative cost with coal, gas and oil; Building-insulation would help cooling economy.

Alcohol.

Alcohol as a possible source of motor fuel. By A. L. Teodoro. Sugar News. v. 14, no. 2. February, 1933. p. 81-83. Depends upon three main factors: 1. Chemical and physical properties of alcohol must satisfy all present fuel requirements with respect to tendency to detonate, to latent heat, volatility, and heating value. 2. Must be possible to produce alcohol cheaply and in enormous quantities. 3. Must be rendered unfit for drinking.

Power alcohol. Australian Sugar Journal. v. 25, no. 6. September 7, 1933. p. 305. Australian governor indicates that alcohol fuel bill will be among those to be considered at present session of Parliament.

Results from alcohol-gasoline fuel blends. By Harry Miller. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 274-276, 278.

Associations.

A. S. A. E. Annual meeting on the Great Lakes. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 292.

A. S. M. E. Annual meeting December 4 to 8. Power Plant Engineering. v. 37, no. 11. November, 1933. p. 490.

Associations. (Cont'd)

Development council begins unification of profession. Engineering News Record. v. 111, no. 16. October 19, 1933. p. 475-476. New intersociety body aims to bring together college, engineering society and licensing board for joint action to improve status and efficiency of profession. Specific program: 1. Develop further means for educational and vocational orientation with respect to responsibilities and opportunities of engineers. 2. Formulate criteria for colleges of engineering which will insure sound educational foundation. 3. Develop plans for further personal and professional development. 4. Develop methods whereby engineers who have met suitable standards may receive corresponding professional recognition.

National federation convention. Farm Implement News. v. 54, no. 21. October 12, 1933. p. 10-13. Proceedings of thirty-fourth annual meeting held in Chicago Oct. 11 and 12.

Barns.

Farm barn losses enormous. Wisconsin Agriculturist and Farmer. v. 60 no. 20. September 30, 1933. p. 3, 6. Construction advocated of separating hay storage from live stock stables.

Study of 100 dairy barns in Wisconsin. By M. A. R. Kelley. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 271-273. General facts: 1. Weather changes affect milk yield, 2. barn construction may modify or nullify adverse weather effects.

Belts.

Alignment charts solve flat belt problems. By E. Cowan. Power. v. 77, no. 11. November, 1933. p. 587-588.

Regulated tension most important in belt transmission. By J. F. Engler. Southern Power Journal. v. 51, no. 11. November, 1933. p. 29-30. Improper tention in belt transmission, whether too loose or too tight, results yearly in thousands of dollars loss - in power, in damaged belts and in labor of repair and replacement. Accurate regulation is possible and should be given most careful consideration.

Building Construction.

American home portfolio of stairway details. American Home. v. 10, no. 2. July, 1933. p. 58-61.

Low cost housing company formed to assist P.W.A. Engineering News Record. v. 111, no. 18. November 2, 1933. p. 540-541. Known as Public Works Emergency Housing Corporation. Planned to act as executive arm of PWA, its purposes as set forth in articles of incorporation, are "to construct, reconstruct, alter or repair low cost housing projects or slum clearance projects, apartment houses, homes and structures of every nature."

Building Construction. (Cont'd.)

Meeting discusses construction of low-cost housing. Engineering News Record. v. 111, no. 18. November 2, 1933. p. 543. National conference on low-cost housing, held under auspices of Cleveland Engineering Society, Oct. 25-27, delved deeply into details of construction and provided opportunity to discuss best practices in planning, designing, and constructing modern, low-cost housing costing not over $5,000 per unit. Opening session was devoted to planning, second and third sessions to materials and construction, and concluding two sessions to plumbing, heating, and electrical services, and to consideration of building codes.

Rostone - a new industry. American Builder and Building Age. v. 55, no.3. June, 1933. p. 40-41. New building material which in appearance and practical construction economy promises to exert considerable influence upon building field.

Terra cotta. Standard construction. Revised edition. 1927. 67p. N.Y. National Terra Cotta Society.

Windows for residential, public and commercial buildings. By E. E. R. Tratman. Architectural Record. v. 74, no. 3. September, 1933. p. 238-246. Selection of windows; Double-hung windows; Reversible windows; Casement windows; Pivoted or swinging windows; Projected windows; Other window types; Miscellaneous buildings; Windowless buildings; Wood and metal windows.

Concrete.

Build recreation rooms in basements with concrete ashlar. Concrete v. 41, no. 10. October, 1933. p. 7-8. Use of concrete ashlar units and other forms of concrete construction for converting ordinary dwelling-house basements into home recreation rooms; opportunities for winter construction.

Cotton.

Cotton adjustment program. By Cully A. Cobb. Extension Service Review. v. 4, no. 5. September, 1933. p. 67-68.

Grade, staple length, and tenderability of cotton in the United States, 1928-29 to 1931-32. 1933. 158p. U.S. Department of Agriculture. Statistical bulletin no. 40.

Heating of cotton when bulked and its effect on seed and lint. By H.P. Smith and others. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 280-284. Conclusion: 1. Piling in field of cotton which had not fully matured and which contained high percentage of moisture in form of green unopen bolls and green leaves, resulted in damage to cotton by heating. 2. Well-matured, hand-snapped cotton stored in field in piles sweated slightly but apparently was not damaged by heating. 3. Germinating power of cotton seed was destroyed and fat content lowered when seed were subjected to excessive heating. 4. Heating of cotton in bulk lowered grade of lint one to four grades, and caused loss of 31 to 35 percent in strength of fiber. 5. Stage of maturity of seed and lint, rather than use of machinery in harvesting was main factor in causing cotton heat when bulked in large piles in field. 6.

Cotton. (cont'd)

In harvesting cotton mechanically cotton should be dry and practically free of green leaves and green unopen bolls, and cotton should not be placed directly on damp ground for any great length of time prior to ginning.

Land of cotton. By E. V. Wilcox. Country Gentleman. v. 103, no. 7. July, 1933. p. 8-9.

Some factors influencing the variability in length of cotton fibers on individual plants as shown by the sorter method. By G. M. Armstrong and C. C. Bennett. Journal of Agricultural Research. v. 47, no. 7. October 1, 1933. p. 447-466.

Dams.

Building large earth dams with C.C.C. labor. Engineering News Record. v. 111, no. 19. November 9, 1933. p. 551-556. Maximum labor force coupled with judicious use of equipment permits army engineers to make good progress on Winooski river flood-control project in Vermont.

Metal-faced gravel dam being built in New Mexico. By H.P. Bunger. Engineering News Record. v. 111, no. 17. October 26, 1933. p. 504-505. Plan, section and elevation of El Vado dam with details of metal-plate facing to be used to make dam watertight.

No present need for completion of dam no. 3 on the Tennessee. By S.T. Henry. Engineering News Record. v. 111, no. 18. November 2, 1933. p. 537. President's order requiring Tennessee Valley authority to undertake construction of dam is out of line with TVA program. More storage needed at headwaters.

Work begun on Bonneville dam on the lower Columbia River. Engineering News Record. v. 111, no. 19. November 9, 1933. p. 556-557. Army engineers to build combined power and navigation project across Oregon-Washington boundary at head of tidewater . Power plant will be second on Columbia River to be financed by PWA.

Drainage.

Drainage in hydraulic-fill dams: Letter from Joel D. Justin. Engineering News Record. v. 111, no. 15. October 12, 1933. p. 448-449.

Electricity on the Farm.

Agricultural electrification in U.S.S.R. Rural Electrification and Electro-Farming. v. 9, no. 100. September, 1933. p. 118. Table shows distribution of 1932 electrical stations among basic branches of agriculture.

Artificial sunlight for poultry. By J.E. Dougherty. Electricity on the Farm. v. 6, no. 10. October, 1933. p. 4-5.

Electric lights for supplying biologically effective ultra-violet light. By A.R. Winter and I.P. Blauser. Agricultural Engineering. v. 14, no.10. October, 1933. p. 277-278.

Electricity on the Farm. (Cont'd)

Electric light in poultry laying houses. Rural Electrification and Electro-Farming. v. 9, no. 99. August, 1933. p. 73-74.

Method of generating electricity as a greenhouse by-product. By Arthur H. Senner. Rural Electrification and Electro-Farming. v. 9, no. 100. September, 1933. p. 114-116. Brief description of scheme for producing electricity as by-product of greenhouse operation, which writer believes represents practical minimum cost of production under present conditions.

Poultry house wiring amortized in one season. Electrical World. v. 102, no. 14. September 30, 1933. p. 435. Flexible metallic conduit, well-arranged convenience outlets and simple switching layout enables poultry farm to enjoy benefits of electric service in four chicken houses with total capacity of 3,000 laying hens on economic basis which liquidates investment cost in single winter season.

Response of crops to electric light. By Robert B. Withrow. Electrical World. v. 102, no. 13. September 23, 1933. p. 411-412. Low light intensities such as produced by 15-watt lamp, applied at night as supplement today light, increase flower production and earliness in flowering of certain crops about as favorably as higher intensities, such as from 500-watt lamp.

Rural electrification in Europe. Rural Electrification and Electro Farming. v. 9, no. 100. September, 1933. p. 101-102. Recent reports from Belgium state that there are now less than 100 parishes in whole country where electricity supplies are not available. Popularity in France due to 1. Supply undertakings have for some time offered most favorable tariffs for current consumed by appliances, 2. Manufacturers now develop appliances so that they are available to majority of farmers. Interesting development taking place in Germany is action of government in taking over large estates when they become bankrupt and apportioning them out into small holding. Brings about demand for large amount of small electrically driven farm machinery.

Simple hookup for dimming poultry house lights. By Neal D. Herrick. Electricity on the Farm. v. 6, no. 10. October, 1933. p. 8-9. Wiring diagram showing automatic time switch, resistance unit, and poultry house lights.

Engines.

Diesel engine in the Southland. By Orville Adams. Southern Power Journal. v. 51, no. 11. November, 1933. p. 13-17. Thousands of horsepower are used to raise water for irrigation, adding millions of dollars to annual production of great Southwest. Diesel engines have taken no small part in recent developments.

Erosion Control.

Government scheme to combat soil erosion. 1933. 12p. Union of South Africa. Department of Agriculture.

Erosion Control. (Cont'd)

Heavy soil erosion. Better Farm Equipment and Methods. v. 6, no. 2-3. October-November, 1933. p. 15. Unless land is terraced, continuous cropping of cotton will result in wearing all top soil away in 30 years in Oklahoma and Texas. Of about 16,000,000 acres of this erosive type of soil in cultivation in Oklahoma, about 13,000,000 are suffering seriously from erosion and about 7,000,000 of these have reached gullying stage. In last ten years 1,500,000 acres have been ruined by deep washing and gullying

Soil erosion, causes and methods of control. By H. B. Roe. 1933. 24p. Minnesota. Agricultural Experiment Station. Special bulletin no.160.

Soil-erosion control by terraces. By C. E. Ramser. Engineering News Record. v. 111, no. 15. October 12, 1933. p. 437-438. Engineering research on experimental farms has determined influence of terrace slope, spacing and length upon waste of soil and water.

Treatment of soil erosion. Australian Sugar Journal. v. 25, no. 6. September 7, 1933. p. 313. Urges that State require representative statistics of loss by erosion, its nature, its relation to soil formation, rainfall, slope of land, crop and type of cultivation. Level terracing is naturally ideal way of checking erosion. Contour drains are best adapted to conditions in New South Wales.

Windgaps and erosion surfaces. By Karl ver Steeg. American Journal of Science. v. 26, no. 155. November, 1933. p. 507-511.

Extension.

Trends affecting extension work. By Grace E. Frysinger. 1933. 14p. mimeographed. U.S. Department of Agriculture. Extension Service Circular no. 193.

Farm Buildings and Equipment.

Rammed earth walls for farm buildings. By Ralph L. Patty and L.W. Minium. 1933. 67p. South Dakota. Agricultural Experiment Station. Bulletin no. 277.

Shelter for farm machinery. By H. B. White. 1933. 1p. University of Minnesota. Agricultural Engineering News Letter no. 19.

Steel can save farmers $300,000,000 a year. By R. Fiske. Iron Age. v. 132, no. 11. September 14, 1933. p. 16-17. Development of steel farm structures by James Mfg. Co., Fort Atkinson, Wis.; Metal used is iron alloy specially developed by Republic Steel Corp. in accordance with practical experience gained by meeting farmers' need; requirements for steel structure that is to be erected on farm; wind-resistant structures.

Farm Machinery and Equipment.

Advantages of grinding feed. Better Farm Equipment and Methods. v. 6, no. 2-3. October-November, 1933. p. 6-8. Practical authentic facts that should stimulate use.

Dun & Bradstreet reports farm equipment sales moving upwards slowly. Implement Record. v. 30, no. 10. October, 1933. p. 8-9.

Harvesting sweet clover seed. By M.W. Holland. Farm and Ranch. v. 52, no. 16. August 15, 1933. p. 4. Old discarded grain binder, stripped of binder head and all parts that were not needed, leaving bull wheel connections that run reel. Made new reel, using three sets of reel-arms, which were made of oak; blades were made of 1 x 4 pine. Reel had to be substantial, as it does threshing. Built canvas frame on back and sides of platform to catch seed, using wagon sheet on bottom. Sickle and guards were removed, and 2 x 4 was bolted on frame that held guards. 2 x 8 which had been faced with tin was slightly raised at front and nailed to 2 x 4. Tin facing made seed that fell at edge slide back to platform. Old binder was made into harvester at cost of only $3 or $4, exclusive of labor.

Hearing set for the retail code. Implement and Tractor Trade Journal. v. 48, no. 20. October 7, 1933. p. 16-17, 24. Text of declaration submitted by National federation with changes suggested by N.R.A. indicated.

Mechanization in the cane fields. International Sugar Journal. v. 35, no. 417. September, 1933. p.335-340. British West Indies, Cuba, Puerto Rico, Southern states, Hawaii, India, South Africa, Java, Fiji, Australia.

Methods and costs of husking corn in the field. By Kenneth H. Myers. 1933. 18p. U.S. Department of Agriculture. Farmers' bulletin no.1715.

Need tools more than bonus: Editorial. Implement and Tractor Trade Journal. v. 48, no. 22. November 4, 1933. p. 7. Government funds are available for almost everything needed except acquisition of profitable machinery.

Pitchfork passes. By Grif McKay. Farm Journal. v. 57, no. 6. June, 1933. p. 7. Modern machinery speeds up haying, saves labor, makes better hay.

Real effects of mechanization on wheat production. By Leonard J. Fletcher. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 267-270. Placed production of wheat on one of highest plans of productive efficiency known in manufacture of any product; reduced work of women and children in field; Abolished fear of food scarcity and claimed for farm life measure of leisure time.

Wider market for feed grinders. Implement and Tractor Trade Journal. v. 48, no. 22. November 4, 1933. p. 11, 14. Better utilization of light roughage crops imperative for dairy production and for maintenance of work and breeding stock.

Floods and Flood Control.

Missouri river diversion seen worth $60,000,000 per year. Power. v. 77, no. 11. November, 1933. p. 608-609. At cost of $60,000,000 Missouri river diversion project is planned to divert and control flood waters of upper Missouri near Garrison, N. D., storing them behind great dam for 150 miles up Missouri and in great Devils Lake water basin. Reservoir will store 15-million-acrefeet of water - about 3/4 of annual flow. Estimated that more than 30,000 hp. will be available electric power to entire drought area, or to all North Dakota.

Flow of Water and Gases.

Flow of simple fluids through porous materials. By George H. Fancher and James A. Lewis. Industrial and Engineering Chemistry. v. 25, no. 10. October, 1933. p. 1139-1147. Reliable method for measuring and studying flow of fluids through media is presented. Conclusions are that flow of fluids through these porous materials closely resembles that through pipes; that there is condition of flow in porous systems which resembles viscous flow, another which corresponds to turbulent; that change from one type to other takes place at definite and reproducible condition for each system; and that permeability and conditions of flow for any simple fluid through consolidated and unconsolidated sands can be approximated by use of relationships which are found.

Flow of water around bends: Letter from James W. Pearl. Engineering News Record. v. 111, no. 17. October 26, 1933. p. 509. At any point in any stream flowing around any bend at any circumferential velocity, relative velocity at free surface and at any other point along vertical line extending to bottom may be represented fairly by plain parabola or some other nearly equivalent curve. Free surface may be level or sloping, up or down, on straight or curved line in any direction, wave-like, or "choppy", without materially affecting what follows. In "free-surface" stream excess pressure is in part relieved by transverse motion of water at low velocities, resulting in helicoidal flow. Part is then consumed by friction, and remainder produces superelevation at outside of bend.

Flow of water around bends: Letter from James W. Pearl. Engineering News Record. v. 111, no. 19. November 9, 1933. p. 570. Correction.

Frost Protection.

Orchard heater smoke is measured by new machine. Implement Record. v.30, no. 10. October, 1933. p. 9. Filter, made of white cloth, is used to catch smoke as it comes from heater. Filter then is placed in apparatus, where photo-voltaic cell measures on micro-ammeter exact amount of smoke, as reflection from cloth on cell generates electricity in proportion to amount of light.

Fuels.

Knock-rating and Diesel fuels. Engineering. v. 136, no. 3531. September 15, 1933. p. 309-310. Method of rating fuels in terms of octane-heptane mixtures, used as fuel for Cooperative Fuel Research Committee engine run, failed to be approved by World Petroleum Congress

Fuels. (Cont'd)

mainly because it was thought to be inapplicable to wide variety of fuels now produced; method has, however, been adopted by American Society for Testing Materials.

New combustion chart insures speed, ease, accuracy. By Eric Thorkelson. Power. v. 77, no. 11. November, 1933. p. 600-601.

Greenhouses.

Small greenhouse beats the hotbed. Farm Journal. v. 57, no. 11. November, 1933. p. 11.

Gunite.

New test data aid quality control of gunite. By E. P. Stewart. Engineering News Record. v. 111, no. 19. November 9, 1933. p. 558-561. Tests conducted in relining reservoirs for Syracuse, N.Y., provide basic data on nozzle velocities, size and shape of test specimens, and cement ratio and water content of mixes.

Heating.

Automatic controls for forced-air heating systems. By S. Konzo and A. F. Hubbard. Heating, Piping and Air Conditioning. v. 5, no. 11. November, 1933. p. 573-580.

Calculation and design of mechanical warm-air heating systems. By J. Donald Kroeker. pt. 1. Heating and Ventilating. v. 30, no. 8. August, 1933. p. 29-33. Right and logical method of designing systems for moving air, seems to be pressure-loss method. To present pressure-loss method without going into finer details and to make essential calculations much simpler without deviating from accuracy is purpose of article. This method is outlined and exemplified particularly as it applies to systems in which heating plant is located either in basement or on first floor.

Calculation and design of mechanical warm-air heating systems. By J. Donald Kroeker. pt. 2. Heating and Ventilating. v. 30, no. 9. September, 1933. p. 28-31.

Comparison of two methods of selecting the design temperature for heating systems. Heating and Ventilating. v. 30, no.8. August, 1933. p. 34-35.

Heating buildings with gas. By C. George Segeler. Heating and Ventilating. v. 30, no. 9. September, 1933. p. 10-18. Growth of natural gas; Natural gas as a heating fuel; Lowering the price of gas; Selling policies; Technical improvements in gas heating; Future of gas heating; Air conditioning with gas.

Heating effect of artificial lighting. By Walter Sturrock and J.H. Walker. Heating, Piping and Air Conditioning. v. 5, no. 11. November, 1933. p. 581-589.

Heating the farm home. By L.R. Neel. Southern Agriculturist. v. 63, no. 9. September, 1933. p. 5.

Heating. (Cont'd)

Review of cast-iron direct radiators. Heating and Ventilating. v. 30, no. 8. August, 1933. p. 23-27.

Selecting temperatures and wind velocities for calculating heat losses. By Paul D. Close. Heating, Piping and Air Conditioning. v. 5, no.10. October, 1933. p. 526-531. Factors governing heat losses; Methods of calculation; Discrepancies between actual and computed results; Analytical studies of typical cases. Conclusions: 1. Transmission losses depend upon temperature head and to minor extent upon wind velocity; infiltration losses depend upon both temperature head and wind velocity. 2. For any given room or space, some concurring combination of temperature and wind velocity will result in heat loss equal to or greater than other combinations. 3. Temperature-wind velocity condition to be selected for calculating heat losses varies with type of construction. 4. It is probable that temperature-wind velocity combinations for design purposes may be readily ascertained for each locality and for one or more common types of construction, with particular reference to approximate ratio of infiltration loss to total loss. 5. In most cases solar radiation should be neglected since maximum heat loss usually occurs in early morning hours when sun is not shining.

Water-heating characteristics checked for off-peak operation. By George M. Palo. Electrical World. v. 102, no. 15. October 7, 1933. p.475-479. Puget Sound Power & Light Company makes exhaustive analysis of water heater design and operation to determine most satisfactory combination for its off-peak rate.

Hitches.

Hitching horses for better implement operation. By J. B. Torrance. 1933. 15p. Minnesota. Agricultural Experiment Station. Special Bulletin no. 162.

Hotbeds.

Electric heating for hot beds. By C. A. C. Brown. Engineering. v. 136, no. 3532. September 22, 1933. p. 337-338. Editorial.

Electrically heated garden frames. By E. A. Beavis. Rural Electrification and Electro-Farming. v. 9, no. 99. August, 1933. p. 82-85. Some notes on small and inexpensive installation for amateur gardener.

Houses.

Colonial and federal house. By Roxford Newcomb. Philadelphia, J. B. Lippincott Company, 1933. 174p.

Cypress cottage proves rustic charm. American Builder and Building Age. v. 55, no. 3. June, 1933. p. 38-39.

Dry construction achieved in lumber industries' "Sunlight House". American Builder and Building Age. v. 55, no. 3. June, 1933. p. 34-37. Advantages of all-wood interiors.

Houses. (Cont'd)

Federal housing: Editorial. Engineering News Record. v. 111, no. 17. October 26, 1933. p. 511. Projects in about dozen cities have been allotted nearly $45,000,000. So much delay is being encountered in transposing allotments into jobs that PWA is making plans to organize federal housing corporation to build and lease or sell low-cost housing. Operations of this corporation, according to proposal, would be carried on in any city of country that its officials fixed upon; city might or might not request or desire housing. Contemplates taking over job that has heretofore been entirely local. Until our governmental and social philosophy is radically changed, housing is inherently local problem and can best be supervised locally.

Home for the small family. By Don Scoates. Progressive Farmer. v. 48, no. 10. October, 1933. p. 12.

A house that belongs. By R. Robert Hibbs. Country Gentleman. v. 103, no. 4. April, 1933. p. 9.

Low-cost housing progresses steadily under PWA program. Engineering News Record. v. 111, no. 16. October 19, 1933. p. 482-484.

Modern homes at "A Century of Progress". By E. B. Stark. Aerologist. v. 9, no. 10. October, 1933. p. 5-8, 15.

Modern houses of the Century of Progress Exposition. Architectural Forum. v. 59, no. 1. July, 1933. p. 51-62.

Stran-steel frame. American Builder. v. 55, no. 3. June, 1933. p. 18-23.

Nailable steel frame is key to low cost of stran-steel house. American Builder. v. 55, no. 3. June, 1933. p. 30-32.

Hydraulics.

Current hydraulic laboratory research in the United States. October 1, 1933. 1933. 42p. Mimeographed. U.S. Bureau of Standards.

Insect Control.

Light traps in insect control. By J. J. Davis. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 284. Operation of light traps at present costs will amount to about five times cost of bait traps, results to date do not show sufficient increased usefulness to pay for this cost and operation.

Insulation.

Insulation is no mystery. By William R. Northlich. Building Material Digest. v. 2, no. 10. October, 1933. p. 12-13. Practical application in farm buildings prove advantages.

Insulation. (Cont'd)

Insulation is no mystery. By William R. Northlich. Building Material Digest. v. 2, no. 10. October, 1933. p. 12-13. Practical application in farm buildings prove advantages.

Insulation properties of aluminum foil. By Theo. F. Rockwell. Architectural Record. v. 74, no. 3. September, 1933. p. 237.

It pays to insulate hot water tanks. By R. S. Julsrud. Domestic Engineering. v. 142, no. 3. September, 1933. p. 44-46, 52. Table shows monetary gain due to insulating hot water heater storage tank.

Irrigation.

All-American canal. By H. J. Gault. Military Engineer. v. 25, no. 143. September-October, 1933. p. 379-382. General plan of all-American irrigation canal project to be developed in connection with Boulder Canyon project, for irrigation of Imperial, East Mesa, West Mesa, and Coachella valleys in southeastern California, totaling about 1,000,000 acres; passing cross drainage; exclusion of sand and silt.

All-American canal gets $6,000,000 for start of work. Engineering News Record. v. 111, no. 17. October 26, 1933. p. 512. Coachella porject not included nor is provision made for power development or for water supply for city of San Diego.

Initial allotment will permit construction by Bureau of Reclamation of first section between Colorado River and Hanlon's Landing. Project will be self-liquidating.

Concrete siphons and canal linings feature irrigation system. By G. W. Hitchcock. Concrete. v. 41, no. 8. August, 1933. p. 13.

Economic aspects of a salt water barrier below confluence of Sacramento and San Joaquin rivers, 1931. Sacramento, California state printing off., 1932. 450p. California, Division of Water Resources. Bulletin no. 28.

Formula developed for determining canal seepage losses. By Samuel Shulits. Engineering News Record. v. 111, no. 15. October 12, 1933. p. 433.

Irrigation interest grows. Oregon Farmer. v. 56, no. 21. September 21, 1933. p. 6. Much development possible in Willamette Valley.

Power irrigation plans backed. Electrical World. v. 102, no. 16. October 14, 1933. p. 487. Public works boards of Nebraska, Iowa, Minnesota, Dakotas and Wyoming have voted to back four Nebraska combination power-irrigation projects to cost $33,000,000.

Verde irrigation and power project gets P.W.A. loan. Engineering News Record. v. 111, no. 19. November 9, 1933. p. 574-575. Initial allotment of $4,000,000.

Views on irrigation and water supply. By H. T. Burgers. South African Institution of Engineers, Journal. v. 32, no. 1. August, 1933. p.3-15. Analytical study of conditions and causes leading to more or less un-

Irrigation. (Cont'd)

successful outcome of irrigation projects in South Africa.

Labor.

Labor requirements of Pennsylvania farms. By J. E. McCord and C. E. Cronemeyer. 1933. 24p. Pennsylvania. Agricultural Experiment Station. Bulletin no. 292.

Land.

Forty million acres go into cold storage. By O. A. Fitzgerald. Washington Farmer. v. 68, no. 22. October 5, 1933. p. 5. Adjustment in land use might result in bringing in of one of new good acres and, to balance it, permanent retirement of perhaps five or ten of poor acres, thus working toward concentration of nation's farming on choicest lands. New deal might also involve sponsored migrations of producers from poorer to these finer lands. What America needs to work for is a "balanced harvest".

How shall I use the idle land? By Francis A. Flood. Farmer and Farm, Stock and Home. v. 51, no. 19. September 16, 1933. p. 5. Crop replacement has developed very definite program that takes into consideration local conditions of every state and even present distress conditions in such drought areas where feed is needed for stock.

Iowa conservation plan: Its bearing upon general land planning. By Jacob L. Crane, Jr. Journal of Land and Public Utility Economics. v. 9, no. 3. August, 1933. p. 247-251.

Regulation and control of land use in non-urban areas. By Robert B. Goodman. Journal of Land and Public Utility Economics. v. 9, no. 3. August, 1933. p. 266-271.

Lubrication.

Friction of lubricants for laminated concrete. By E. C. Eaton. Engineering News Record. v. 111, no. 15. October 12, 1933. p. 442-444. Friction tests made on variety of lubricants for use between laminations of facing for San Gabriel flood control dams. Preliminary high-pressure friction tests indicate that greater pressure results in lower coefficient.

Knowledge and care needed for effective lubrication of prime movers. By A. F. Brewer. Southern Power Journal. v. 51, no. 8-9. August - September, 1933. p. 33-34. Lubrication requirements should be made with view of seeking out extent to which respective operating conditions may affect ultimate performance of lubricants in question; from lubricants point of view, several classifications include: turbine bearing service, Diesel engine cylinders, air compressors and engine bearings, steam cylinder; etc.

Meters.

Practical application of the orifice meter to steam flow with varying densities. By M. W. Warren. Southern Power Journal. v. 51, no. 11. November, 1933. p. 27-28. Direct-reading meter for steam flow determination assumes pressure to be constant. Applications where pressure varies materially must be considered very carefully if accuracy is to be obtained.

Miscellaneous.

Appropriations available to the federal department of agriculture. Editorial. Experiment Station Record. v. 69, no. 3. September, 1933. p.321-322.

Azimuth determination. By E. T. Coddington. 1933. 73p. Ohio Engineering Experiment Station. Bulletin no. 79.

Cellulose and its place in industry. By Philip C. Scherer, Jr. 1933. 30p. Virginia Polytechnic Institute. Bulletin v. 26, no. 12.

Home tanning of leather. By M. K. Thornton. 1933. 8p. Texas. Agricultural and Mechanical College. Extension Service. Circular no. 99.

Officials and organizations concerned with wild-life protection, 1933. 1933. 13p. U. S. Department of Agriculture. Miscellaneous publication. no. 166.

Political hygiene and public ownership. By Arthur E. Morgan. Electrical World. v. 102, no. 16. October 14, 1933. p. 492-493. I see no essential reason why public administration of utilities cannot be on higher level than private administration. For benefits to accrue, public ownership must give first attention to effectiveness of service and ridding itself of incubus of political patronage and limitations of political as against professional service.

Pools for home grounds. By D. J. Bushey. 1933. 11p. Cornell University. College of Agriculture. Extension bulletin no. 265.

President Lehman's address to national federation. Farm Implement News. v. 54, no. 21. October 12, 1933. p. 14-15.

President Roosevelt's emergency conservation work program. Washington, Government Printing Office, 1933. 9p.

Resistance to flow of molasses found to agree with basic laws. By Glen N. Cox. Engineering News Record. v. 111, no. 15. October 12, 1933. p. 441. Tests show that loss of head through long pipe is in accordance with laws governing resistance to flow of other viscous fluids.

Vertical sundials. By C. L. Boone. American Home. v. 10, no. 2. July, 1933. p. 66-67, 99-100.

Motors.

Motor failures and their causes. By C. W. Gustafson. Grain and Feed Journals. v. 71, no. 4. August 23, 1933. p. 141-142.

Motors. (Cont'd)

Motors and motor starters. By A. L. Harvey. Electric Journal. v. 30, no. 10. October, 1933. p. 408-409. Comparison of different classifications of polyphase induction motors; different types of starters used with them; differences in starting torques in various combinations of motors and starters.

Pipes and Piping.

Piping standardization. By Sabin Crocker. Heating, Piping and Air Conditioning. v. 5, no. 10. October, 1933. p. 500-504. Standard for wrought-iron and wrought-steel pipe.

Piping standardization - materials specifications. By Sabin Crocker. Heating, Piping and Air Conditioning. v. 5, no. 11. November, 1933. p. 552-554.

Plows and Plowing.

Electric plowing in New Zealand. Rural Electrification and Electro-Farming. v. 9, no. 99. August, 1933. p. 86-88. Total costs per acre for ploughing when using petrol tractor were 8s. 8½d., as compared with electric tractor costing 6s. per acre, with current at 1.4d. per unit. Cable used for supplying power is carried on drum mounted just behind front axle, which is automatic in action. Motor driving cable drum is controlled by contacts on jib which are opened and closed by tension on cable. In event of tension becoming too great, motor starts up in such direction as to unroll cable, while looseness of cable immediately starts motor in opposite direction, and cable is wound on to drum. English electric motor is used to wind cable on drum. Even when unwinding it is kept at sufficient tension to clear implements drawn by tractor. Done by means of drag brake, which comes into action as friction drive is disengaged. Cable drum gear can be swung in any position, thus allowing it to point always in direction in which it is picking up or laying down cable. Driver of tractor has no control over this part of machine.

Anticipated 20 h.p. machine can be manufactured for 300 pounds.

Fall plowing to check disease. By C. T. Gregory. Implement and Tractor Trade Journal. v. 48, no. 20. October 7, 1933. p. 11. Clean work at this season prevents development of fungus spores, thus reducing hazard for next season's crops.

Poultry Houses and Equipment.

How to build a good poultry house. Building Material Digest. v. 2, no.10. October, 1933. p. 6, 8.

Protecting poultry from predacious birds. By W. L. McAtee. 1933. 6p. U.S. Department of Agriculture. Leaflet no. 96.

Power.

More power in farming for speed and economy. By Karl C. King. Country Gentleman. v. 103, no. 7. July, 1933. p. 10-11, 39. Manufacturers can contribute distinct favor to American farmers and to themselves by limiting extension of credit on machine to time of harvesting first crop on which machine works. Farmer must remember that his is separate and distinct problem, wherein proper relation between kind and amount of crops, livestock and machinery must be determined.

Power cultivating machinery. Engineer. v. 156, no. 4055. September 29, 1933. p. 311-312. Editorial contribution relating to international exhibition of machines organized by Comite Central de Culture Mecanique at Arpajon, where machines were shown in operation on field, indicating that agricultural engineers are finding solution of problem in selection of tractor types that differ essentially from those demonstrated in past.

Seventy million hp. on farms. Implement and Tractor Trade Journal. v. 48, no. 22. November 4, 1933. p. 10, 18. Department of Agriculture Survey shows motor trucks and gas tractors each affording more than horses and mules. Powers effect upon production costs and time charges. Table gives available horsepower on American farms.

Utilization and cost of farm power in Georgia. By John R. Fain and others. 1933. 55p. University of Georgia. College of Agriculture. Bulletin no. 434.

Radiation.

Radiation of energy through glass. By J. L. Blackshaw and F.C. Houghton. Heating, Piping and Air Conditioning. v. 5, no. 10. October, 1933. p. 523-525.

Reclamation.

Sea defences and reclamation of land from sea. By M. DuPlat Taylor. Engineering. v. 136, no. 3533. September 29, 1933. p. 372-374. Consideration of protection of lands against inroads of sea; reclamation of lands from sea.

Refrigeration.

Home refrigeration methods in rural Rhode Island. By Blanche M. Kuschke and Margaret Whittemore. 1933. 19p. Rhode Island. Agricultural Experiment Station. Bulletin no. 239.

Portable refrigeration chambers for studying cold resistance of plants in the field. By J. R. Holbert and others. 1933. 28p. U.S. Department of Agriculture. Circular no. 285.

Reservoirs.

Reservoirs for farm use. By M.R. Lewis. 1933. 17p. U.S. Department of Agriculture Farmers' Bulletin no. 1703.

Rivers.

Sacramento river basin, 1931. Sacramento, California State Printing Office, 1933. 585 p. California, Division of Water Resources. Bulletin no. 26.

Roofs.

There are roofs and roofs. By Duncan Hunter. Better Homes and Gardens. v. 11, no. 10. June, 1933. p. 14-15, 57-58. How to select most appropriate one for your home.

Runoff.

Estimating flood crest run-off. By S. L. Meyer. Public Works. v. 64, no. 7. July, 1933. p. 12.

Silos.

Makeshift silos better than none. Northwest Farm Equipment Journal. v. 47, no. 10. October, 1933. p. 22-23. Wood-slat picket fencing; pit silo.

Temporary silos on I.H.C. Dakota farms. Dakota Farmer. v. 53, no. 13. September 16, 1933. p. 248. Snow-fence silo.

Trench silo in Nebraska. By Ivan D. Wood and E.B. Lewis. 1933. 31p. Nebraska Agricultural College. Extension Circular no. 713.

Silt.

New type of silt sampler developed for water studies. By A. H. Frazier. Engineering News Record. v. 111, no. 17. October 26, 1933. p. 491. Samples, consists of standard pint milk bottle, held in 40-lb. bronze weight of streamline design, which offers minimum resistance to current of water. Bottle is opened and closed by stopper operated by small weights dropped down suspending cable by observer. Sampler is suspended by cable in same manner as current meter and can be readily operated from bridge, cable or boat. Adapted for collection of samples anywhere in cross section of stream to depth within less than foot from bottom.

Silt load of Texas streams. By Orville A. Faris. 1933. 71p. U.S. Department of Agriculture. Technical Bulletin no. 382.

Soils.

Soil and field-crop management for St. Lawrence county, New York. 1933. 52p. Cornell University. Agricultural Experiment Station. Bulletin no. 570. pt. 1. Soils and field crops, by A. F. Gustafson. pt. 2. Pasture improvement and management, by D. B. Johnstone-Wallace. pt. 3. Soil maps and soil-type descriptions, by F. B. Howe and A.F. Gustafson.

Specification.

New cement specifications proposed in France. Engineering News Record. v. 111, no. 19. November 9, 1933. p. 562. Single specification covers nine groups or types with total of 36 grades from hydraulic lime to high-alumina cement.

Storage Houses and Cellars.

Commercial storage of fruits, vegetables, and florists' stocks. By Dean H. Rose and others. 1933. 40p. U.S. Department of Agriculture. Circular no. 278.

Root storage is simple. By L. J. Smith. Oregon Farmer. v. 56, no. 21. September 21, 1933. p. 2. Cellar may be built as moderate cost.

Tires.

Tractor tire chains meet the traction extremes. By F. A. Olmstead. Implement and Tractor Trade Journal. v. 48, no. 20. October 7, 1933. p.10, 24. Invaluable for overcoming unusual demands which will be imposed upon pneumatic-tired tractors in farm service.

Tractor.

Requirement for the general-purpose agricultural tractor. By A. W. Lavers. Agricultural Engineering. v. 14, no. 10. October, 1933. p. 279. Essential requirements of general-purpose farm tractor are determined by great variety of field conditions.

Ventilation.

Ventilation of poultry houses for laying and breeding hens. By John C. Huttar and others. 1933. 48p. Cornell University. Agricultural Experiment Station. Bulletin no. 558.

Walls.

Data for design of retaining walls. By A.H. T. Williams. Concrete. v. 41, no. 9. September, 1933. p. 10.

Water Analyses.

Stream-pollution survey completed in Cook County. Engineering News Record. v. 111, no. 16. October 19, 1933. p. 466. Two-year pollution survey of 700 miles of streams in Cook County, Illinois has been completed. Survey included Salt Creek, and Calumet, Des Plaines and North Branch of Chicago River and tributaries. Reports carry detailed records of all sources of pollution and offer specific recommendations for abatement of pollution and for preserving sanitation in future.

Water Heating.

Domestic water heating by furnace coils. Bulletin. Hydro-electric power commission of Ontario. v. 20, no. 9. September, 1933. p. 322-327.

Water Heating. (Cont'd)

Hot water tops the list. By L. J. Smith. Washington Farmer. v. 68, no.22 October 5, 1933. p. 7. Illustration shows how fixtures are connected and how water is heated. Sink, force pump, hot water or range boiler, together with pipe, tops and fittings, may be had today for outlay of around $30 to $35.

Water Supply.

Records of groundwater supplies in Texas. Engineering News Record. v.111, no. 19. November 9, 1933. p. 561. Investigation of U.S. Geological Survey and Texas Board of Water Engineers. Records have been obtained of more than 3,000 wells. In large numbers of wells, records include size of well and total depth, depth to water level, depth to top of principal water-bearing bed and thickness and character of bed, method of lift, kind and amount of power used, kind of pump used, and yield of well from natural flow or under pump in gallons a minute.

Value of water in southern California. By F. Thomas. Civil Engineering. v. 3, no. 10. October, 1933. p. 555-559. Historial resume of cost of its development for irrigation and domestic use; economic disasters resulting from droughts; early water developments; artesian wells; rising values of water during present century; Colorado river aqueduct water; charges for domestic water.

Water conservation. California Cultivator. v. 80, no. 21. September 16, 1933. p. 423. Flood control dams, impounding reservoirs and spreading grounds have done much to prevent our limited rainfall from running into ocean. W. E. Milligan's system consists of series of sand traps or settling basins to catch silt and debris in flood waters, also series of deep wells or pits into which cleared water will flow, carrying it at once to various underground sand and gravel stratas where it is stored under normal conditions for use of farmers who happen to be pumping their irrigation water from wells located on these stratas or on underground reservoirs supplied by them.

Water Systems.

Simple domestic farm water system for Colorado. 1933. 3p. Mimeographed. Colorado. Agricultural College. Extension Service. Circular no. 1227. Design of simple, easily constructed domestic water system for home use. Designed to draw cold water from any source not lower than 15 to 20 feet below.

Wood.

How lumber is graded. By H.S. Betts and R. K. Helphenstine, Jr., Rev., 1933. 48p. U. S. Department of Agriculture. Department Circular no. 64.

Wood Preservation.

Economy of treated lumber. By Evan L. Fellman. Building Material Digest. v. 2, no. 10. October, 1933. p. 14-16.